



SAYFASAN

Elektrik Elektromekanik ve Güç Sistemleri Sanayi Ticaret A.Ş.

ENERJİ PROJELERİNİZİN DENEYİMLİ ORTAĞI...

SAYFASAN ÇEVRE DOSTU



Sitemizden tüm
ürünlerimizi inceleyebilir
bilgi için iletişim
kurabilirsiniz.
Lütfen telefonunuzdan QR
kodunu okutunuz.



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TUTKU İLE BAĞLANMAK
GÜVENMEK
İNANMAK VE İNANDIĞIN
BU YOL DA
YAŞANTINA YÖN VERMEK
HAYATIN DA KENDİN VE
SEVDİKLERİN İÇİN
YENİ BİR SAYFA AÇMAK

METAL ENCLOSED SWITCHGEARS

EVA Air Insulated Metal Enclosed Switchgears are medium voltage switchgear equipment used for reliable distribution of electricity in 36 kV secondary distribution systems according to the customer's different requirements. EVA Air Insulated Metal Enclosed Switchgears are highly suitable for for the use of indoor environments industrial production facilities and compact type substation buildings. Thanks to its modular construction for its easy and quick installation. Add to that, EVA Air Insulated Metal Enclosed Switchgears can smoothly meet and apply all the clients' requirements. The output busbars of these cells are insulated by air, while, the electrical insulations and the breaking operations are all performed in SF6 gas environment. By this way, a maximum safety operation can be achieved in minimum distances. EVA Air Insulated Metal Enclosed Switchgears are also preferred by customers as a substation package with its reliable construction and compact dimensions.

ADVANTAGES OF EVA AIR INSULATED METAL ENCLOSED SWITCHGEARS



COMPACT DESIGN



EASY INSTALLATION AND CHANGEABILITY THANKS TO MODULAR CONSTRUCTION



COMPATIBILITY WITH RIGHT-LEFT EXTENSION WHEN NEEDED



INTELLIGENT LOCKING SYSTEMS FOR MAXIMUM OPERATOR SAFETY



RELIABLE SWITCHING WITHIN SF6 GAS ENVIRONMENT



scada

SCADA SYSTEMS



DIFFERENT COMBINATIONS OF FEEDERS ACCORDING TO THE CUSTOMER'S REQUIREMENTS



SUITABLE FOR EASY TRANSPORT AND STORAGE



EVA AIR INSULATED SWITCHGEARS ARE FLEXIBLE TO ANY KIND OF REQUIREMENT OF A SUBSTATION AND CAN EASILY BE ENERGIZED.

QUALITY MANAGEMENT AND STANDARDS



EVA Air Insulated Metal Enclosed Switchgears are manufactured based on an integrated quality management system. In all of our production departments' facility at each stage, the quality production of EVA Air Insulated Metal Enclosed Switchgears is inspected and checked whether the EVA products are produced according to the relevant standards and customer's requirements or not. After that, all the related documents and test reports are recorded which that ensures all the terms of traceability are met.

EVA Air Insulated Metal Enclosed Switchgears are produced according to IEC 62271-200, 60265, 60129, 60694, 62271-100, 62271-102, 62271-105 standards.

The quality of EVA Air Insulated Metal Enclosed Switchgears are also certified in international accredited laboratories.



ISO 14001:2015



ISO 9001:2015



OHSAS 18001:2007

USAGE AREAS

INFRASTRUCTURE AND CONSTRUCTION SECTOR

Ports, train stations, airports, hospitals, schools, hotels, shopping malls, commercial centers, holiday complexes etc.



VARIOUS INDUSTRIES

Water, iron and steel, automotive, oil etc.

ENERGY

Wind power plants, solar energy plants, hydroelectric power plants, MV distribution systems, transformer substations etc.



STRUCTURAL FEATURES

STRUCTURAL PARTS AND SWITCHING DEVICES

EVA Air Insulated Metal Enclosed Switchgears are made up of four main compartments separated by a metal partition:

1. Busbar connection compartment
2. Switching and cable connection compartments
3. Mechanism compartments
4. Low voltage compartments



1. BUSBAR CONNECTION COMPARTMENT

Access to this compartment is provided from the closure on the cell. Side-by-side installation of EVA Air Insulated Metal Enclosed Switchgears is carried out through three busbars located in this section.



2. SWITCHING AND CABLE CONNECTION COMPARTMENT

This compartment consists of switching elements such as switch disconnecter, disconnecter, circuit breaker and earthing switch according to the customer's request. If the cell is a fuse-load break switch combination, then the pin mechanism and MV fuses are included in this compartment. The cable system of the network is connected to the cell at the connection points below the earthing switch in this section.

With the help of the sheet metal partitions between the bar connection part and the cable connection part, disconnecter with the epoxy body or the load break switch is securely separated from the busbar. The earthing switch must be set to the ground position so that the cable can be connected safely from the front side.

BATEL SF6 INSULATED LOAD BREAK SWITCHES

BATEL SF6 insulated load break switches provide "switching-disconnecting" characteristics. LBS main circuit contacts are housed in an epoxy cast housing that is filled with 1.5 bar SF6 gas and guaranteed for a lifetime of gas tightness. The main circuit contacts can be found in only one of the two positions "On" or "Off".

The earthing switch is located outside the epoxy body and earthing switch position can be monitored directly, safely and reliably by the user. There is a mechanical locking mechanism that ensures safe operation between the earthing switch and the main circuit contacts. The explosion-proof reliability of the gas-filled epoxy seal is provided by the safety membrane at the rear.

There are auxiliary contact options that indicate the positions of the main circuit contacts and the earthing switch. The control mechanism can be set manually by using a lever or automatically by using a motor when required. The set mechanism has accumulated energy for closing and tripping purposes. Closing and opening operations can be done with pushbuttons or remote coils, If required, a protective fuse with a trigger pin and tripping system can be applied.



BATEL SF6 INSULATED CIRCUIT BREAKERS

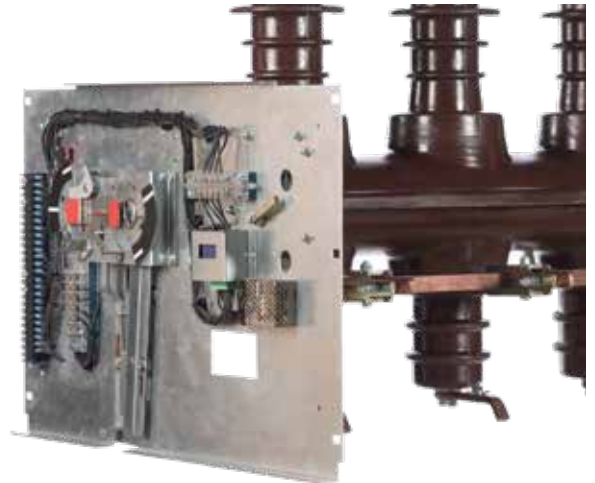
BATEL SF6 gas insulated circuit breakers provide high reliability with applied SF6 gas arc breaking technique. With these features, BATEL SF6 gas insulated circuit breakers guarantee the continuity of energy in electric distribution systems.

Epoxy-insulated 3 pole housings are filled with SF6 gas and their sealings are guaranteed for a lifetime. The explosion-proof reliability of gas-filled pole epoxy housings is provided by the safety membrane on the bottom cover. The control mechanism can be set manually by using a lever or automatically by using a motor when required. The set mechanism has accumulated energy for closing and tripping purposes. Closing and opening operations can be done with pushbuttons or remote coils. BGK type circuit breakers have front and side mechanism options. 4NO + 4 NC or 6NO + 6 NC auxiliary contact options are available for OPEN and CLOSED positions.



3. MECHANISM COMPARTMENT

There are some mechanisms of switching elements In this compartment such as load break switch, disconnector, circuit breaker and earthing switch. According to the customer's request motor or earthing disconnector can be added to this section.



4. LOW VOLTAGE COMPARTMENT

This compartment contains the LV fuses, protection relays, measuring instruments and connection terminals.



INTERLOCKING SYTEM

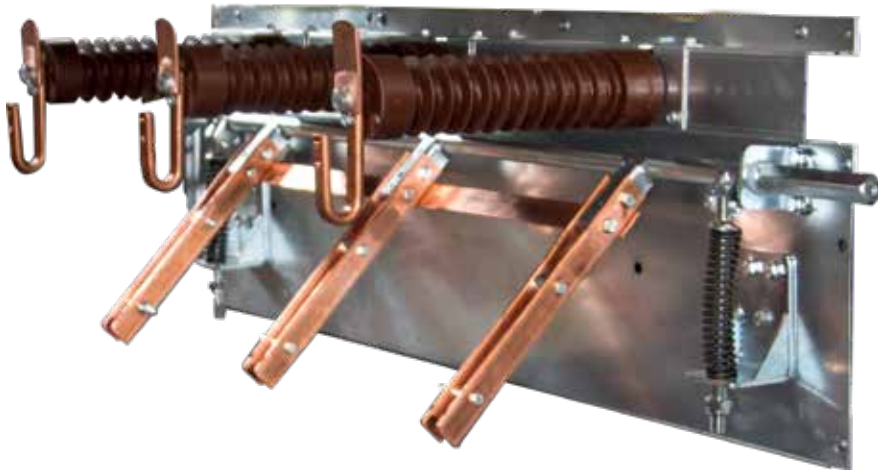
EVA Air Insulated Metal Enclosed Switchgears provide maximum safety of operation. Thanks to the following interlocking mechanisms:

1. The load break switch can not be closed when the cell's door is open.
2. Only when the earthing switch is off, the cell's door can be opened.
3. The load break switch can be closed only when the earthing switch is opened and the cell door is closed.
4. The earthing switch can only be closed when the load break switch is opened.
5. According to the customer's request, it is possible to include an earthing lock on the cell. When the cable is energized, the short circuit earthing of each phase is shut down.



EARTHING SYSTEM

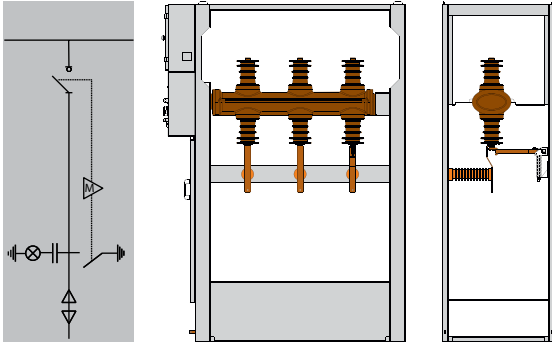
Switching elements such as earth conductors of energy cables, blades of earthing switch, breaker, disconnector, load break switch, the classes of current and voltage transformers and the metal parts all should be connected to each other at first and then all of the previous elements to be connected to the main earthing busbar located in the front of the cell. This will ensure the system's grounding safety.



EVA AIR INSULATED METAL ENCLOSED SWITCHGEAR TYPES AND TECHNICAL DETAILS

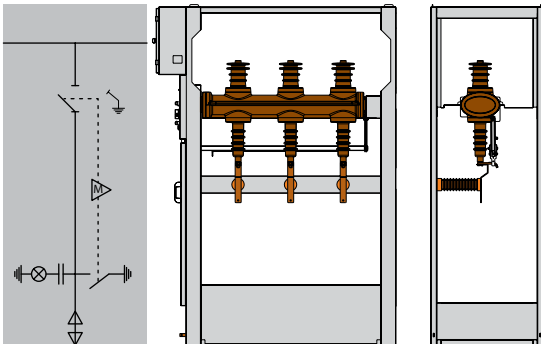
EVA AIS Switchgears can be classified according to usage areas as follows:

INCOMING-OUTGOING FEEDER WITH LOAD BREAK SWITCH



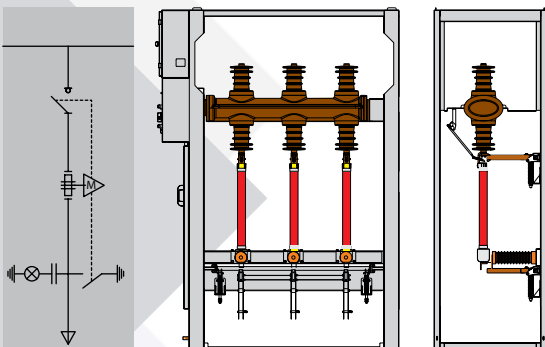
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-S	36kV	750	1400	2250
eva-24-S	24kV	500	1000	1935

INCOMING-OUTGOING FEEDER WITH DISCONNECTOR



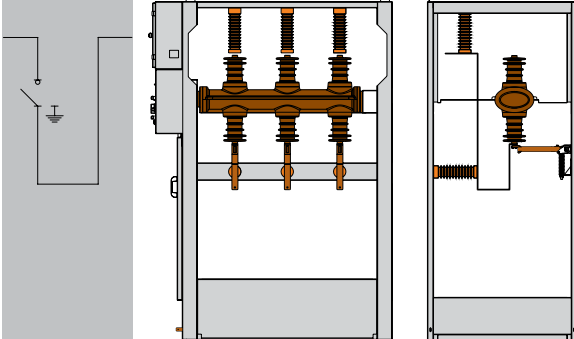
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-S (a)	36kV	750	1400	2250
eva-24-S (a)	24kV	500	1000	1935

LBS-FUSE COMBINATION TRANSFORMER PROTECTION FEEDER



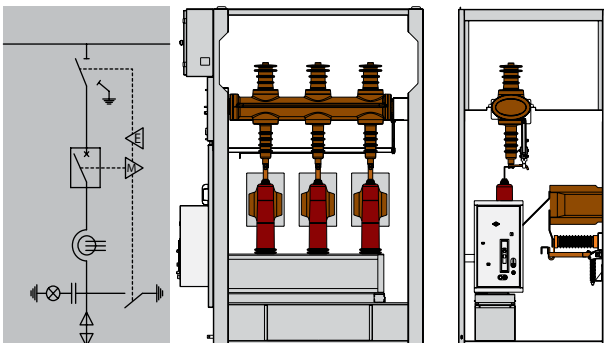
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-F	36kV	750	1400	2250
eva-24-F	24kV	500	1000	1935

BUSBAR PARTITION CUBICLE WITH LOAD BREAK SWITCH



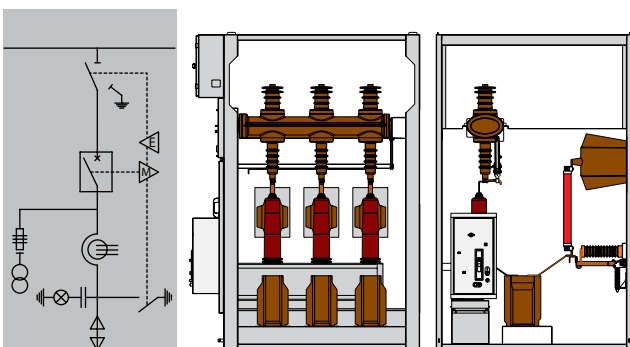
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-DS	36kV	1000	1400	2250
eva-24-DS	24kV	750	1000	1935

INCOMING-OUTGOING TRANSFORMER PROTECTION FEEDER WITH CIRCUIT BREAKER



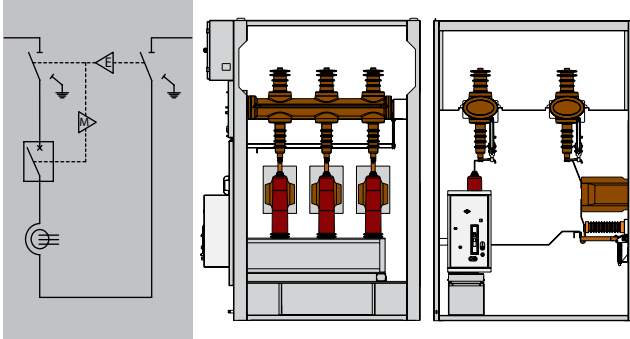
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-B	36kV	1000	1400	2250
eva-24-B	24kV	750	1000	1935

OUTGOING FEEDER WITH CIRCUIT BREAKER AND VOLTAGE TRANSFORMER



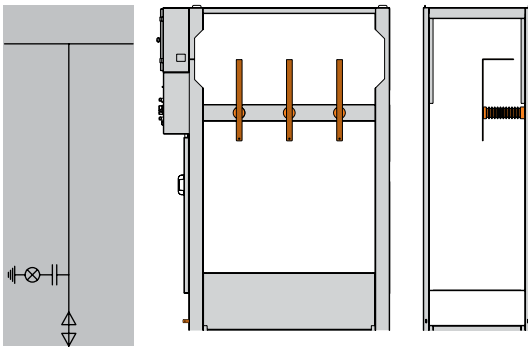
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-Otop	36kV	1400	1400	2250
eva-24-Otop	24kV	1100	1000	1935

BUS TIE (COUPLER) FEEDER WITH CIRCUIT BREAKER



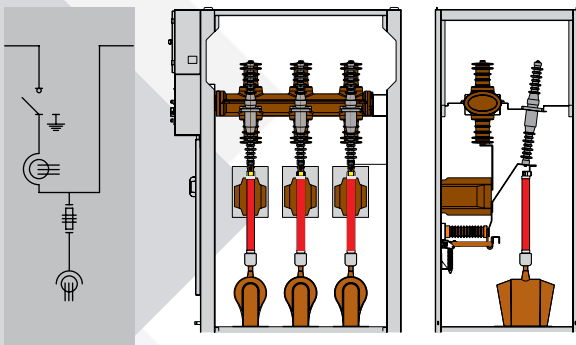
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-CB	36kV	1500	1400	2250
eva-24-CB	24kV	1250	1000	1935

CABLE CONNECTION CUBICLE



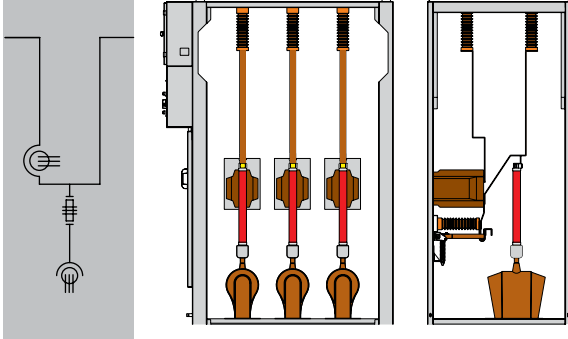
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-CR	36kV	750	1400	2250
eva-24-CR	24kV	500	1000	1935

CURRENT & VOLTAGE MEASUREMENT CUBICLE WITH LOAD BREAK SWITCH



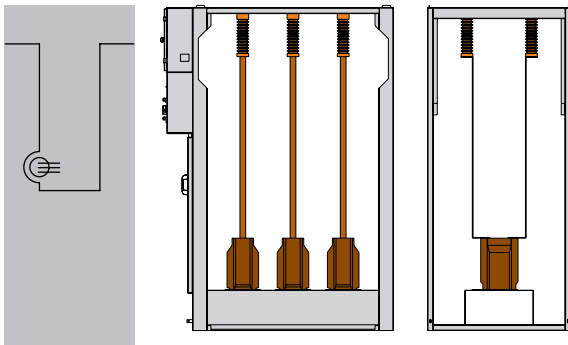
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-McvL	36kV	1000	1400	2250
eva-24-McvL	24kV	750	1000	1935

CURRENT & VOLTAGE MEASUREMENT CUBICLE



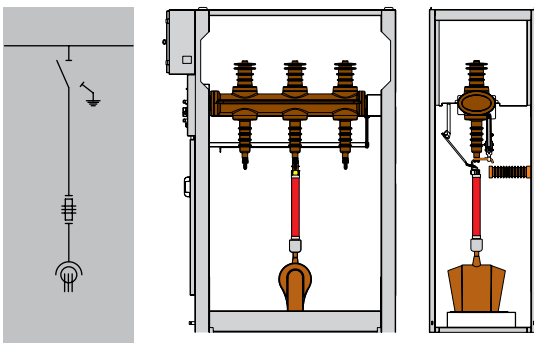
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-McvR	36kV	1000	1400	2250
eva-24-McvR	24kV	750	1000	1935

CURRENT MEASUREMENT CUBICLE



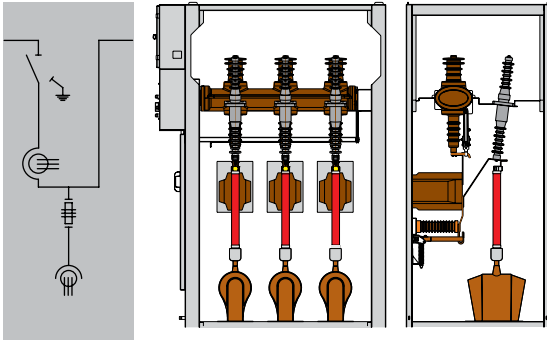
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-Mc	36kV	1000	1400	2250
eva-24-Mc	24kV	750	1000	1935

AUXILIARY TRANSFORMER CUBICLE



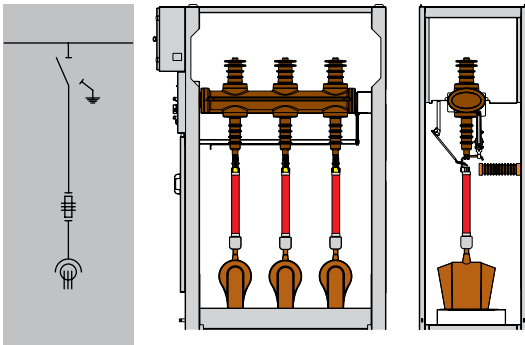
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-Mvi	36kV	750	1400	2250
eva-24-Mvi	24kV	500	1000	1935

CURRENT & VOLTAGE MEASUREMENT CUBICLE WITH DISCONNECTOR



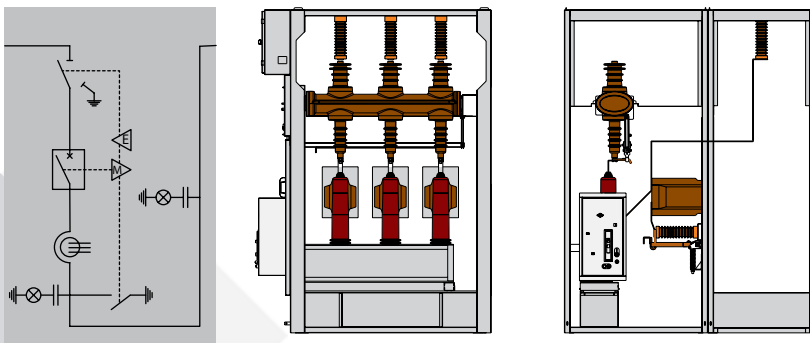
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-Mcvs (a)	36kV	1000	1400	2250
eva-24-Mcvs (a)	24kV	750	1000	1935

VOLTAGE MEASUREMENT CUBICLE



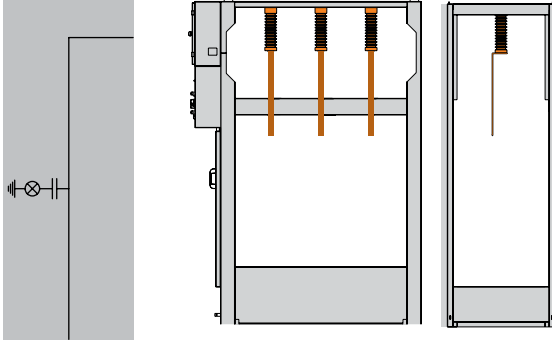
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-Mv	36kV	750	1400	2250
eva-24-Mv	24kV	500	1000	1935

BUS SECTION FEEDER WITH CIRCUIT BREAKER



PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-DB	36kV	1750	1400	2250
eva-24-DB	24kV	1250	1000	1935

BUS RISER CUBICLE



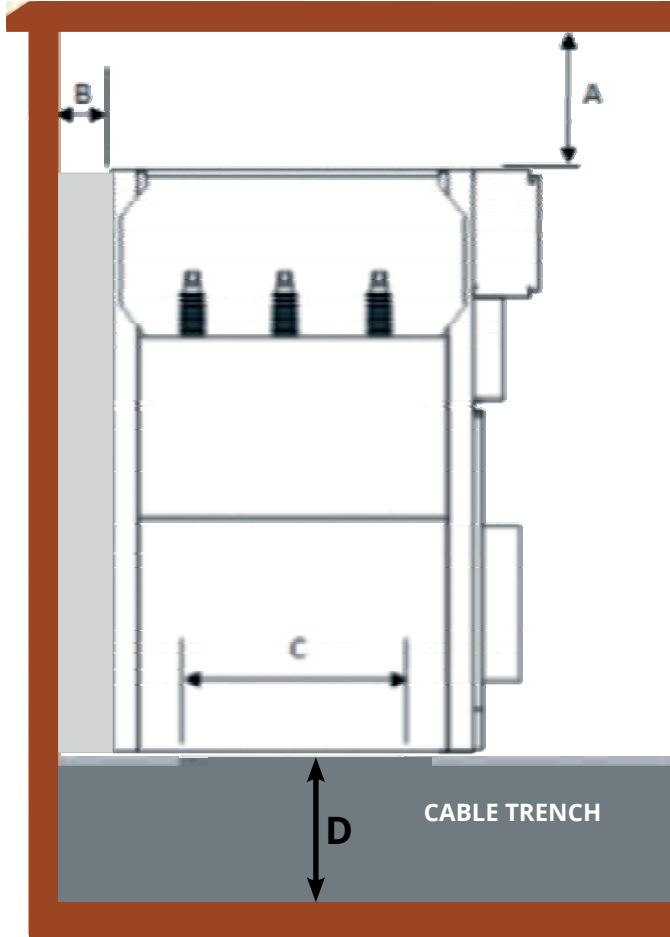
PRODUCT CODE	RATED VOLTAGE	WIDTH (mm)	DEPTH (mm)	HEIGHT (mm)
eva-36-BR	36kV	750	1400	2250
eva-24-BR	24kV	500	1000	1935

TECHNICAL SPECIFICATIONS

	eva-12	eva-24	eva-36
Rated voltage	12kV	24kV	36kV
Rated power frequency withstand voltage (phase-to-phase) (1 min)	28kV	50kV	70kV
Rated power frequency withstand voltage (across isolating distance) (1 min)	32kV	60kV	80kV
Rated lightning impulse withstand voltage (phase-to-phase)	75kV	125kV	170kV
Rated lightning impulse withstand voltage (across isolating distance)	85kV	145kV	195kV
Rated frequency	50/60 Hz		
Rated current	630-1250 A*		
Rated Short Circuit Current (1sec) (3sec)	16-20 kA		
Rated Active Load Weighted Cutting Current	630 A		
Rated Current Transfer	630 A		
Rated peak withstand current	40 kA-tepe		
Mechanical endurance class	M1/M2		
Electrical endurance class	E3/E2		
Protection class	IP3X		
Internal arc classification	AFL		
Loss of service continuity class	LSC2A-PI		
Fuse Length	358mm	508mm	603mm

* Does not apply to Load Break Switch cells.

PLACEMENT AND INSTALLATION



EVA Air Insulated Metal Enclosed Switchgears should be placed on a cable duct in the building, taking into account the drawings and measurements given below.

Where the cells are to be placed, the distance to the ceiling and back wall of the cell

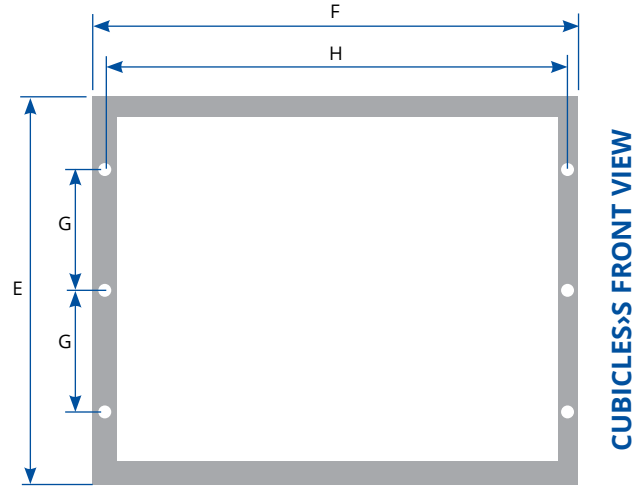
$A \geq 400$ mm and $B = 100$ mm

Cable duct dimensions (XLPE insulated, $1 \times 240/25$ mm² according to the cable):

C (Cable channel width) = 900 mm and D (Cable channel depth) = minimum 690 mm

FIXING SWITCHGEARS TO THE GROUND

In addition, the cells should be installed with M10 x 30 steel bolts as shown below.



MODEL	HOLE NUMBER	E (mm)	F (mm)	G (mm)	H (mm)	MODEL	HOLE NUMBER	E (mm)	F (mm)	G (mm)	H (mm)
eva-24-S	4	500	1000	370	870	eva-36-S	4	750	1400	550	1270
eva-24-S (a)	4	500	1000	370	870	eva-36-S (a)	4	750	1400	550	1270
eva-24-F	4	500	1000	370	870	eva-36-F	4	750	1400	550	1270
eva-24-DS	4	1000	1000	620	870	eva-36-DS	4	1000	1400	800	1270
eva-24-B	4	750	1000	620	870	eva-36-B	4	1000	1400	800	1270
eva-24-Otop	6	1100	1000	485	870	eva-36-Otop	6	1400	1400	600	1270
eva-24-CB	8	1000	1000	370/370	870	eva-36-CB	8	1500	1400	550	1270
eva-24-CR	4	500	1000	370	870	eva-36-CR	4	750	1400	550	1270
eva-24-McvL	4	750	1000	620	870	eva-36-McvL	4	1000	1400	800	1270
eva-24-McvR	4	750	1000	620	870	eva-36-McvR	4	1000	1400	800	1270
eva-24-Mc	4	750	1000	620	870	eva-36-Mc	4	1000	1400	800	1270
eva-24-MVİ	4	500	1000	370	870	eva-36-MVİ	4	750	1400	550	1270
eva-24-McvS (a)	4	750	1000	620	870	eva-36-McvS (a)	4	1000	1400	800	1270
eva-24-Mv	4	500	1000	370	870	eva-36-Mv	4	750	1400	550	1270
eva-24-DB	8	1250	1000	620/370	870	eva-36-DB	8	1750	1400	800/550	1270
eva-24-BR	4	500	1000	370	870	eva-36-BR	4	750	1400	550	1270

Note: **eva-24-CB** cell consists of two 500mm cells which they come side by side.

eva-24-DB cell consists of one 500mm cell and one 750mm cell which they come side by side.

Note: **eva-36-CB** cell consists of two 750mm cells which they come side by side.

eva-36-DB cell consists of one 750mm cell and one 1000mm cell which they come side by side.

Dürüst çalışmanın ve verilen sözleri tutmanın karşılığında elde edilen güvenin, bir şirket için en önemli sermaye olduğunu biliyoruz...



ENERJİ PROJELERİNİZİN DENEYİMLİ ORTAĞI...



SAYFASAN ELEKTROMEKANİK VE GÜÇ SİSTEMLERİ SANAYİ TİCARET ANONİM ŞİRKETİ

İZMİR : MERSİNLİ MAHALLESİ 2823/1 SOKAK NO: 16 MAĞAZA: 119 OTOPLAZA YENİŞEHİR - KONAK/İZMİR

ANKARA : KONUTKENT MAHALLESİ ELMAR TOWER 3028.CADDE E BLOK KAT:12 ÇANKAYA/ANKARA

UŞAK : İSLİCE MAHALLESİ FABRİKALAR CADDESİ NO:27 UŞAK

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